September 12, 2003

VIA FEDEX

Milanga Abeysuriya
ICF Consulting
1725 Eye Street, Suite 1000
Washington, D.C. 20006

Re: EPA Energy Star Program Requirements for Room Air Cleaners Draft 1

Dear Ms. Abeysuriya:

Hamilton Beach/Proctor-Silex, Inc. (Hamilton Beach) is a leading manufacturer and marketer of home appliances to the U.S. market. Our line of appliances includes room air cleaners. We are pleased to have been asked to respond to the EPA Energy Star Program Requirements for Room Air Cleaners Draft 1 (the Draft Proposal).

Background

Hamilton Beach entered the air cleaner market in 2000, after performing extensive consumer research and technical product development. Our initial product offerings included HEPA air purifiers that treat air with UV germicidal light. For several years, selected Hamilton Beach air purifiers have also featured computerized air monitoring systems to control energy consumption in response to particulate loads in consumers' air. In 2000, we also launched what was to become an enormously successful line of small, plug-mounted odor eliminators under our new TrueAir brand. These small, fan-driven appliances plug directly into electrical outlets and have no cord. Rather than targeting the elimination of particulates, our TrueAir Odor Eliminators are especially designed to remove odors from air through the use of activated carbon filters to trap odors near their source. Through these and other technologically advanced, consumer-focused products in the air cleaner category, Hamilton Beach now sells approximately 30% of the air cleaners in the U.S.

Hamilton Beach has a long history of creating and implementing safety and performance standards that benefit consumers. We share the same vision as Jim Guest, who as President and C.E.O. of Consumers Union said, "energy efficiency [is] a key factor in providing purchasing advice for home products and appliances, helping consumers save money and energy."[1] Mr. Fanara's letter of

[1] Alliance to Save Energy, News Release (Sept. 17, 2002).

June 27, 2003 regarding the Draft Proposal confirms that Energy Star has the same objective, namely,

> to make it easy for buyers to identify the most energy-efficient products in the marketplace while encouraging the design and manufacturing of room air cleaner products that maximize energy savings without compromising product performance.

We share the same goal as Dr. Kathleen Hogan who as director of EPA's Climate Protection Partnerships Division said that Energy Star helps "to insure all Americans have the information they need to make the best choices for their lives and the environment."[2]

CADR

Because the Clean Air Delivery Rate (CADR) standard is at the center of the Draft Proposal, we offer the following analysis:

1. CADR means "smoke". At its foundation, CADR measures the ability of an air cleaner to eliminate tobacco smoke. As the focus for an energy efficiency standard, tobacco smoke misses the mark. Smoking rates have decreased dramatically since work began on the CADR standard in 1982, and they continue to decrease today.[3]

More to the point, today's Americans face a bewildering array of indoor air quality issues caused by allergens larger than tobacco smoke particulates. Tightly-sealed, energy efficient windows and year-round use of HVAC trap dust, pollen, mold, pet dander and dust mite debris inside homes. The proliferation of carpet in American homes harbors these allergens, and their attendant health risks. "If truckloads of dust with the same concentration of toxic chemicals as is found in most carpets were deposited outside, these locations would be considered hazardous-waste dumps."[4] As Americans spend more time indoors exposed to these pollutants, they significantly increase the risk of damage to their respiratory health.[5]

Air cleaners capture large allergen particles more effectively than they capture tobacco smoke particles. As a result, air cleaners designed to remove larger allergens use motors that are much smaller and more energy-efficient than

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[2] *Id.*
[3] American Lung Association, *Trends in Tobacco Use, 2003*, Fig. 2 (http://www.lungusa.org/data/smoke/SMK1.pdf).
[4] Ott, W. and John Roberts, *Everyday Exposure to Toxic Pollutants,* SCIENTIFIC AMERICAN at 91 (Feb. 1998).
[5] American College of Allergy, Asthma & Immunology, *Indoor Pollution Poses Higher Risk to Respiratory Health as People Spend More Time Indoors* (www.medem.com).

motors in traditional HEPA units. Unfortunately, because these highly efficient air cleaners are not primarily designed to eliminate environmental tobacco smoke, they cannot score well on the CADR test.

American consumers deserve more than CADR can offer. Energy Star must move beyond CADR in order to provide real, meaningful information about the energy efficiency of air cleaners that have the broadest range of consumer appeal, namely those air cleaners that target the larger allergens.

2. CADR tests highest speed, not typical consumer use. CADR tests how quickly a certain type of particulate can be removed from the air within a short period of time (for example, 15 – 20 minutes). Our research indicates that consumers primarily use their air cleaners on low speed for long periods of time. To provide meaningful consumer guidance, Energy Star should reflect actual consumer usage, not artificially-induced short blasts in the most energy-inefficient mode.

3. CADR tests highest speed only, not automatically variable speed. CADR measures particulate removal at high speed and only during short periods of time. Accordingly, the Draft Proposal overlooks the energy efficiency provided by automated particulate sensing technology. This smart technology ensures that the appliance is consuming the lowest level of energy required to do the job. For example, if there are abnormally high levels of particulates in the air, the machine adjusts to increase the fan speed; otherwise, the machine runs on low speed. Energy Star should reflect the energy efficiency of these automated systems.

More Appropriate Standards Already Exist

Energy Star is the gold standard for communicating energy efficiency to consumers. In formulating alternatives to the CADR component of the Draft Proposal, we analyzed Energy Star standards for other products. We found the standards for refrigerators and dishwashers to be particularly relevant. Consumers use refrigerators much as they use their air cleaners: once the products are plugged in and set at the desired level, consumers rely on the continued performance of the products. Additionally, we found that the "soil sensing" technology featured in some dishwashers is analogous to the smart sensing technology in air purifiers, described above.

Therefore, EPA should consider basing its Energy Star program for air cleaners on a kWh/yr basis, as it currently does with refrigerators. Another option would be to rate an air cleaner on its ability to move air through the filter measured in cubic feet per minute (CFM), divided by the wattage consumed to do so. This would promote the use of energy efficient appliances as well as efficient filter media. As with dishwashers, the period of time over which the efficiency of an air cleaner is measured should be one that is relevant to consumers.

Conclusions

CADR is an inflexible standard in search of a new application. If CADR were used in the Energy Star context, it would mislead consumers and undermine the very purpose of the program, which is to empower consumers.

Hamilton Beach recommends that:

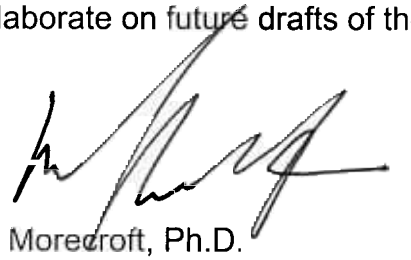
(1) Energy Star take into account consumers' need for small, energy-efficient air cleaners that are designed to trap larger allergen particles, and not just smoke;

(2) Energy Star measure energy efficiency at typical consumer-use speeds (not just "High"); and

(3) Energy Star take into account the energy efficiency provided by automated systems.

We welcome the chance to discuss our point of view with you in greater detail and to collaborate on future drafts of the standard.

Sincerely,



Michael J. Morecroft, Ph.D.
President & C.E.O.

cc: Andrew Fanara, EPA Office of Air and Radiation